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### **ABSTRACT**

Association Cost and Revenue study effects of scale on the costs of various factors in newspaper production were examined. Despite several limitations of the Inland Survey, the following tentative conclusions were reached: total expenses rise faster than circulation, and total revenues rise faster still. Big newspapers make (and spend) proportionally more money than smaller newspapers. As newspapers grow in circulation, they also grow in bulk. Findings show that if news-editorial quality can be operationalized as expenditures, then it is better to have a single large daily than two half its size. This seems to dispel the notion that quality is enhanced by competition. However, an adequate operationalization of "quality" as money spent on newspaper departments is lacking in the data. For all their value in demonstrating the consequences of scale, the Inland data do not present the market antecedents necessary for an adequate test of the "quality" assumption. (Eight footnotes and four tables of data are included.) (ARH)



## NEWSPAPER SCALE AND NEWSPAPER EXPENDITURES

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# NEWSPAPER SCALE AND NEWSPAPER EXPENDITURES

This paper examines the effects of scale on the costs of various factors in newspaper production. It employs data from the 1986 Inland Daily Newspaper Association Cost and Revenue study.

It is well established that economies of scale in the production of daily newspapers contrive to end competition. The high cost of producing the first copy of a newspaper is amortized over the production of subsequent identical copies. Marginal cost declines, and so does average cost. Thus the smaller newspaper in a competitive market has a cost disadvantage that it cannot overcome. 1

Busterna describes the mixed meanings that these economies of scale have for the public welfare. First, technical efficiency (the minimization of costs) saves resources and permits low prices. The greatest such efficiency occurs with a monopoly newspaper. But a monopoly is dissonant with the goal of high product performance ("quality" that owes to competitiveness), and the goal of allocative efficiency (low barriers to entry, normal pricing and profits). Legalization of collusion under joint operating agreements is an attempt to reconcile these goals. In a joint operation, the production functions are merged to enhance technical efficiency, but the news departments remain separate to inspire competition. Whether news competition yields much more than redundancy remains debatable. As Meyer has argued, it may be better to have one large news department serving a market than two smaller "competitors."



Do larger newspapers allocate relatively more resources to the news-editorial function? The relationships between scale and various expenditures can be shown concretely through reference to the Inland Daily Press Association Cost and Revenue Study.<sup>4</sup>

Since 1916, the Inland Daily Press Association has invited financial data from newspapers so that publishers can compare costs.<sup>5</sup> The service has been especially valuable for small independent dailies that would otherwise lack reference to industry norms.

In 1986, 308 newspapers provided information on about 100 variables. As always, the identities of individual newspapers were kept secret. The participating publishers were given a full descriptive report and 39 single-regression equations, all based on circulation, so that they could compare their own performance to industry averages.

As we examine the Inland data for 1986, we must note three substantial limitations on this rich data set: the information is cross-sectional, it is silent about market structure, and the sample is self-selected.

The first limitation prevents longitudinal analyses of such interesting matters as relationships between news-editorial expenditures and circulation retention.

The second limitation prevents certain desirable analyses under the general model of industrial-organization economics, which proposes that market structure (including population, competition and ownership) affects a firm's conduct. Such data are not gathered by Inland and could compromise anonymity if they were.



The third problem, self-selection, means that generalizations cannot properly be made about the population of American dailies. The sample is also relatively heavy with smaller dailies, and the variance is scarcely uniform across the sample. For that reason, a subset of cases, dailies between 20,000 and 200,000 circulation, is employed here. Table 1 describes the Inland dailies and the subset.

## ---TABLE 1---

The Inland survey places costs in six general categories: news-editorial; advertising; circulation and distribution; mechanical; newsprint, ink, and handling; and general and administrative. It accounts revenues in two main categories, advertising and circulation, plus a small residual category.

Table 2 presents some costs and revenues for two imaginary newspapers. They were inferred from regression of each factor on circulation. In all cases logged values were used. For example, the equation for advertising revenues was: log ad rev = 2.49 + 1.28(log circ). The beta (1.28 in this case) can be interpreted as an elasticity with circulation. So, for a 1% change in circulation, we infer a 1.28% increase in advertising revenues. (The "totals" are not sums of the amounts shown here; they were also derived from equations.)

#### ---TABLE 2---

Among other things, we see that total expenses rise faster



than circulation, and that total revenues rise faster still. The profit rate (on revenues) is 20.8% for the larger newspaper and 18.5% for the smaller. Big newspapers make (and spend) proportionally more money than smaller newspapers. The estimated values for the two newspapers provide a concrete picture of the difference.

One of the miscellaneous items at the bottom, number of locally printed pages a year, explains some of the expansion: as newspapers grow in circulation, they also grow in bulk. (For a 10% rise in circulation, we estimate a 5.8% growth in pages printed.) These added pages bear advertising, produce revenues, and require expenditures. The data on expenses per 1,000 impressions (number of pages times circulation) demonstrates technical efficiency due to scale.

Earlier we noted a dilemma involving technical efficiency and product performance. The former may be better achieved by a single large paper in place of two smaller ones. But "quality" -- especially in the news product -- is believed enhanced by competition. The latter point is often argued though it is essentially moot except in a few markets. Competition between newsrooms is now largely confined to one-owner combinations. Regarding these, and indeed purer forms of competition, we point out that in Table 2 the newsroom expenditures of the 100,000-circulation daily is more than double the expenditures of the 50,000-circulation daily. So if news-editorial quality can be operationalized as expenditures, then it's better to have a single large daily than two half its size.7

The topic of quality raises a normative proposition that



invites use of the Inland data. It is the assumption that news-editorial quality is somehow profitable. That is, if the publisher elects to enhance the news product, readers will be attracted and revenues will increase. This proposition has been asserted frequently and investigated occasionally, with difficulty.8

Many of the quantifiable attributes assigned to "quality" in other studies are to be found in the Inland data: expenditures on news-editorial departments, staffing levels, and number of news pages. These, it may be argued, will correlate with circulation and revenues. So they do, as Table 3 indicates. But this is not surprising, because circulation typically correlates strongly with most quantitites within a newspaper.

## ---TABLE 3---

The assumption so far in this paper has been that circulation flows from population (unspecified in Inland data) and that the expenditures result from circulation size. However, the normative proposition that publishers ought to spend more on news-editorial content reverses the causal direction. It would have us assume that circulation (at least in part) flows from expenditures on news. A multiple-regression approach can be used in an attempt to test the proposition.

It is a conceit of journalists to assume that theirs is the only department contributing to the success of the newspaper. The advertising and circulation departments, among the six cost centers, also directly serve readers and advertisers. Therefore a



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model arguing an effect of inputs should include (or at least control for) these other expenditures.

Table 4 shows the results of regressing logged circulation on logged news-editorial, advertising, and circulation expenditures.

### ---TABLE 4---

Devotees of the assumption that expenditures (surrogates for quality) are investments should be encouraged by Table 4, but not too much. It shows that news-editorial expenditures are significantly positive with circulation in multiple regression with advertising and circulation expenditures. Advertising is not significant in the presence of the others.

But what's lacking is an adequate operationalization of "quality" as money spent on newspaper departments. Among other problems, high expenditures may signify waste. Also lacking is reference to, and control for, market size. Whether these departmental expenditures would remain significant when entered with the number of households, a strong correlate of circulation, is in doubt.

For all their value in demonstrating the consequences of scale, the Inland data do not present the market antecedents necessary to an adequate test of the "quality" assumption.





## NOTES

- 1 Bruce M. Owen, Economics and Freedom of Expression (Cambridge, Mass.: Ballinger, 1975), pp. 16-18. James N. Rosse, "The Evolution of One Newspaper Cities," in Federal Trade Commission, Proceedings of the Symposium on Media Concentration, Dec. 14 and 15, 1978, Vol. 2, pp. 429-71.
- 2 John C. Busterna, "Commentary: Improving Editorial and Economic Competition with a Modified Newspaper Preservation Act," Newspaper Research Journal, 8, No. 4:71-83 (Summer 1987).
- 3 Philip Meyer, The Newspaper Survival Book (Bloomington: Indiana University Press, 1985), pp. 131-33. For a recapitulation of doubts about competition's efficacy in the newsroom, see Busterna, op. cit.
- 4 For the data and related information the author thanks Don Beelow, Director of Research, The Inland Daily Press Association, 777 Busse Highway, Park Ridge, IL 60068.
- 5 The history is given in Inland Daily Press Association, Service Bulletin, Jan. 6, 1978.
- 6 Some but not all publishers participate in consecutive years. For the only known longitudinal use of Inland data, see B. E. Wright and John M. Lavine, "The Constant Dollar Newspaper: An Economic Analysis Covering the Last Two Decades" (booklet). The Inland Daily Press Association, 1982.
- 7 This fortifies Meyer's position that a publisher (and the community) are probably better off with one strong daily than with a combination diluted by a weak member. If the weaker paper is killed, the net effect on circulation is modest. See William B. Blankenburg, "Predicting Circulation After Consolidation," Journalism Cuarterly, 64:585-87 (Summer-Autumn 1987).
- 8 See James Ottaway, "Quality, Profit, and the American Newspaper," Nieman Reports, Spring 1987, pp. 8-10,24. "Publisher Pans Peers," Editor & Publisher, Feb. 6, 1988, pp. 9-11. John Morton, "Looking Back to the Future," Washington Journalism Review, Jan./Feb. 1988, p. 60. Gerald C. Stone, Donna B. Stone and Edgar P. Trotter, "Newspaper Quality's Relation to Circulation," Newspaper Research Journal, 2, No. 3: pp. 16-24 (April 1981). Lee B. Becker, Randy Beam, and John Russial, "Correlates of Daily Newspaper Performance in New England," Journalism Quarterly 55:100-8 (Spring 1978). Leo Bogart, Press and Public (Hillsdale, N.J.: Erlbaum, 1981), pp. 190-201.

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# TABLES

TABLE 1. Descriptive statistics.

	Full Sample	Subset Used
N of cases	308	149
Minimum	3,400	20,000
Maximum	446,200	194,100
Mean	40,916	50,245
Median	20,800	38,400
Standard dev	59,774	33,745
Skewness	3.69	1.85

TABLE 2. Inferred values for two hypothetical dailies.

	50,000 circ	100,000 circ	e*
Revenues			
Adverwising Circulation Total Revenue	\$12,475,986 3,375,087 16,077,328	\$30,296,556 7,807,847 38,504,516	1.28 1.21 1.26
Expenses			
Administration Advertising Circ/Dist News-editorial Mechanical Newsprint Total expense	3,852,006 1,048757 1,701,885 1,694,161 1.333,231 2,470,765 13,096,883	8,430,452 2,217,109 4,460,278 3,785,728 2,818,498 6,657,394 30,508,758	1.13 1.08 1.39 1.16 1.08 1.43
Other			
Home-printed pages Expense per 1,000	17,774 impressions \$14.76	26,569 \$11.48	.58

<sup>\*</sup>Elasticity with circulation



TABLE 3. Correlations of selected costs with circulation and revenues.

	CIRC	NPREV	NEFULL	NESAL	NEPP
Circulation Revenues N-E fulltime N-E salaries N-E pages N-E expenses Ad expenses Circ exp	0.907 0.739	1.000 0.933 0.930 0.765 0.942 0.931 0.924	1 000 0.968 0.747 0.971 0.907	1.000 0.702 0.994 0.932 0.906	1.000 0.723 0.700 0.718
	NEEXP	ADEXP	CIRCEXP		
N-E espenses Ad empenses Circ exp	1.000 0.933 0.920	1.000 0.903	1.000		

N = 149

TABLE 4. Regression of logged circulation on selected expenditures.

	b	Beta	SE	T	P
News-editorial Advertising Circulation Constant	.397 .029 .277 5.581	.500 .036 .422	.074 .070 .051	5.36 .42 5.39	.001 .68 .001

DF=3,145; F=345.7; P<.001

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